

REMARKS

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Upon entry of this amendment, claims 1-9, 11 and 12 will be pending. By this amendment, claims 1 and 6-9 have been amended; and claims 11 and 12 have been added. No new matter has been added.

Objections to the Specification

In Section 1 of the Office Action, the Specification stands objected to for failing to provide antecedent basis for the claimed subject matter. Claims 1, 6, and 7 have been amended to clarify the claim terms. Further, the Specification has been amended to clarify the term “closest to”.

Objections to Claims 1, 6, and 7

In Section 2 of the Office Action, claims 1, 6, and 7 stand objected to for informalities. Claims 1, 6, and 7 have been amended to clarify the claim terms.

§102 Rejection of Claims 1, 4, and 6-8

In Section 3 of the Office Action, claims 1, 4, and 6-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Verboom *et al.* (U.S. Patent No. 5,574,706; hereinafter referred to as “Verboom”) in view of Nakagawa *et al.* (U.S. Patent No. 5,986,592; hereinafter referred to as “Nakagawa”). Claims 1, 6, and 7 have been amended to address the rejection.

In the Background section of the Specification, it was disclosed that “[c]auses generating a focal discrepancy in focusing control include a steady-state deviation due to a residual left at a servo time, a shift in focal-point position due to variations in plate thickness from disc to disc and a variation in offset due to an increase in temperature inside a disk drive setting the disc.”

Background of the Specification, page 4, lines 18-23.

“In moving the optical pickup making an access to the disc to the correction area to carry out a correction, however, there is raised a problem that the recording or playback operation must be temporarily suspended. In order to solve this problem in a case wherein data must be processed in a real-time manner, it is necessary to provide the recording and playback apparatus with additional components such as a buffer for temporarily storing data to be processed during the correction. The necessity to provide the recording and playback apparatus with additional components such as a buffer for facilitating a correction raises another problem of a more complex configuration of the recording and playback apparatus.” *Background of the Specification, page 6, line 19 to page 7, line 8.*

To solve the above-stated problem, embodiments of the present invention provide a recording and playback apparatus for recording data onto a predetermined recording medium and playing back the data from the recording medium.

For example, the structure of apparatus claim 1, as presented herein, includes:

“*judgment means* for forming a judgment as to whether or not to correct focus precision in an operation to record data onto an Nth track of said recording medium or play back data from said Nth track; and

computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of said Nth track; and

correction means for correcting said focus precision if said judgment means determines to correct said focus precision in said operation to record data

onto said Nth track of said recording medium or play back data from said Nth track, said correction means operating to correct said focus precision by using said performance function value.”

(emphasis added)

Accordingly, in one embodiment of claim 1, the recording and playback apparatus includes judgment means; computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of said Nth track; and correction means to correct the focus precision by using the performance function value. Therefore, the apparatus of claim 1 provides a capability “to shorten the time it takes to carry out a correction in focusing control by execution of the correction with a predetermined timing by moving an optical pickup to a location, [where] data has already been recorded at and is in the neighborhood of a current position of the optical pickup [(i.e., the Nth track)] in a recording or playback operation being carried out, and using an RF signal [obtained from] the data already recorded at the neighbor location.” *Specification, page 7, lines 12-20 (emphasis added).*

By contrast, Verboom discloses a recording and playback apparatus including a correction means to correct the focus precision, and Nakagawa discloses “an encoding and decoding device and method for playing an RF signal loaded from a record medium on which is recorded information utilizing an RLL code”. Although Okada *et al.* (U.S. Patent No. 6,430,119; hereinafter referred to as “Okada”) describes focus control in an optical disk apparatus and “the relationship between the target position for focus control and the jitter” (Okada, column 18, lines 27-28), Verboom, Nakagawa, and Okada fail to provide any motivation to combine the respective teachings for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of the

Nth track (i.e., the current position), and for correcting the focus precision by using the performance function value. That is, to combine these three references, several innovative steps, which are not provided in any of the three references, would have to be assumed.

Further, even if there was a motivation to combine the teachings of Verboom, Nakagawa, and Okada, the teachings of these references will merely produce an apparatus including correction means to correct the focus precision; encoding and decoding means to play the RF signal loaded from a record medium; and focus control means to correlate the focus with the jitter. That is, the hypothetical apparatus formed from the combined teachings of the three references lacks limitations such as using the jitter/amplitude of the RF signal obtained from the track (already recorded) in the neighborhood of the current position as a performance function value for correcting focus precision.

Therefore, Verboom, Nakagawa, and Okada, individually or in combination, fail to teach or suggest all the limitations of claim 1.

Based on the foregoing discussion, it is maintained claim 1 should be allowable over Verboom, Nakagawa, and Okada. Furthermore, since independent claims 6 and 7 closely parallel, and recite substantially similar limitations as recited in, independent claim 1, claims 6 and 7 should also be allowable over Verboom, Nakagawa, and Okada. Since claims 4 and 8 depend from claim 1, and claims 4 and 8 should also be allowable over Verboom, Nakagawa, and Okada.

Accordingly, it is submitted that the rejection of claims 1, 4, and 6-8 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 2

In Section 4 of the Office Action, claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Niwayama (U.S. Patent No. 5,485,443).

Based on the foregoing discussion regarding claim 1, and since claim 2 depends from claim 1, claim 2 should be allowable over Verboom and Nakagawa. Further, in Section 4 of the Office Action, it was indicated that Niwayama was cited for disclosing a judgement means capable of forming a judgment to correct the focus precision if a predetermined period of time is determined to have lapsed. Thus, Verboom, Nakagawa, and Niwayama fail to teach or suggest an apparatus including judgment means; computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of said Nth track; and correction means to correct the focus precision by using the performance function value. Therefore, Verboom, Nagakawa, and Niwayama, in combination or individually, fail to teach or suggest all the limitations recited in claim 2.

Accordingly, it is submitted that the rejection of claim 2 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 3

In Section 5 of the Office Action, the Examiner has rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Koyama *et al.* (U.S. Patent No. 5,517,475; hereinafter referred to as “Koyama”).

Based on the foregoing discussion regarding claim 1, and since claim 3 depends from

claim 1, claim 3 should be allowable over Verboom and Nakagawa. Further, in Section 5 of the Office Action, it was indicated that Koyama discloses a judgment means capable of forming a judgment to correct the focus precision if a temperature inside a disk drive setting is determined to have increased. Thus, Verboom, Nakagawa, and Koyama fail to teach or suggest an apparatus including judgment means; computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of said Nth track; and correction means to correct the focus precision by using the performance function value. Therefore, Verboom, Nagakawa, and Koyama, in combination or individually, fail to teach or suggest all the limitations recited in claim 3.

Accordingly, it is submitted that the rejection of claim 3 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claim 5

In Section 6 of the Office Action, claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Tani *et al.* (U.S. Patent No. 6,574,177; hereinafter referred to as “Tani”).

Based on the foregoing discussion regarding claim 1, and since claim 5 depends from claim 1, claim 5 should be allowable over the combination of Verboom and Nakagawa. Further, in Section 6 of the Office Action, it was indicated that Tani discloses “a correction means capable of correcting said focus precision by determining a focus bias value that provides the absolute value of a difference within a threshold value k”. Thus, Verboom, Nakagawa, and Tani fail to teach or suggest an apparatus including judgment means; computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from

an already recorded track in the neighborhood of said Nth track; and correction means to correct the focus precision by using the performance function value. Therefore, Verboom, Nagakawa, and Tani, in combination or individually, fail to teach or suggest all the limitations recited in claim 5.

Accordingly, it is submitted that the rejection of claim 5 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

§103 Rejection of Claims 9 and 10

In Section 7 of the Office Action, claims 9 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Verboom in view of Nakagawa, and further in view of Okada.

Based on the foregoing discussion regarding claims 1 and 8, and since claim 9 depends from claim 1, claim 9 should be allowable over the Verboom, Nakagawa, and Okada. Therefore, Verboom, Nagakawa, and Okada, in combination or individually, fail to teach or suggest all the limitations recited in claim 9. Claim 10 has been canceled.

Accordingly, it is submitted that the rejection of claim 9 and 10 based upon 35 U.S.C. §103(a) has been overcome by the present remarks and withdrawal thereof is respectfully requested.

Newly-added Claims 11 and 12

Since claims 11 and 12 depend from claim 1, claims 11 and 12 should be allowable over the cited prior art references.

Conclusion

In view of the foregoing, entry of this amendment and the allowance of this application with claims 1-9, 11, and 12 are respectfully solicited.

In regard to the claims amended herein and throughout the prosecution of this application, it is submitted that these claims, as originally presented, are patentably distinct over the prior art of record, and that these claims were in full compliance with the requirements of 35 U.S.C. §112. Changes that have been made to these claims were not made for the purpose of patentability within the meaning of 35 U.S.C. §§101, 102, 103 or 112. Rather, these changes were made simply for clarification and to round out the scope of protection to which Applicant is entitled.

In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicant's representative at the telephone number written below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully submitted,

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